

Transactions

Calendar

For dates, times and locations of upcoming MTC meetings, visit <www.mtc.ca.gov/meetings>.



In this aerial view taken early Saturday morning during Labor Day weekend, the old deck piece has been rolled out of the way (to the right), and the replacement piece (to the left) — and last link to a bypass — is ready to roll in.


NOVEMBER/
DECEMBER 2009

TRANSPORTATION NEWS
FOR THE NINE-COUNTY
SAN FRANCISCO BAY AREA



Letter to Readers

Dear Readers:

You're used to getting *Transactions* via the mail, but did you know you also can read it online at <www.mtc.ca.gov/news/transactions>? And now we have an easy way for you to find out when we post new editions. Just click on the little  of the home page, news page or *Transactions* page; you will be taken to a form that will allow you to subscribe to notices about our newsletter postings, as well as to alerts for other new content, including our daily compilation of headlines from around the region, and press releases. If you would prefer to get your newsletter strictly online now that this alert system is in place, just send an e-mail with your full contact information to <info@mtc.ca.gov>, and we'll remove you from the newsletter mailing list (or indicate this preference on the enclosed survey).

Tell Us What You Think

In the coming weeks, we will be evaluating the role and value of our various publications in these tough economic times, and in the face of a global shift away from printed media and toward more electronic communication with constituencies. We would like to engage you in this discussion via the enclosed survey, which is a self-mailer. You can also access it online at <www.mtc.ca.gov/survey>. Respond by January 29, 2010, and we will send you a free poster of the new East Span of the San Francisco-Oakland Bay Bridge. You also can send an e-mail with your thoughts and suggestions to <editor@mtc.ca.gov>.

— Brenda Kahn, Editor

The San Francisco-Oakland Bay Bridge

has been in the spotlight this fall, topping Bay Area newscasts and making local and national headlines. First there was the daring bypass operation on the East Span of the Bay Bridge that called for a planned closure of both halves of the bridge over the long Labor Day weekend. The surgery to roll out a 3,200-ton double-tiered deck section the length of a football field and then slide in a 3,600-ton replacement went relatively smoothly. ♦ But that monumental construction feat was soon overshadowed by the discovery of a defect — a failed steel “eyebars” member in the latticework holding up the old East Span — that threatened to prolong the holiday weekend bridge closure. Engineers were able to patch things up in time to reopen the bridge the morning after Labor Day, only to see the repairs fall victim to vibrations seven weeks later. Officials had no choice but to close the bridge again to reinforce the repairs, this time for an agonizing five-plus days. ♦ And when the eyebrow repairs didn't steal headlines, the “S” curve in the new bridge bypass did. Linking the old East Span to the Yerba Buena Island tunnel while the new East Span completes its march toward the island, the detour has proven to be a challenge for both motorists and truckers, who must slow down in order to navigate the stretch. ♦ MTC's Bay Area Toll Authority has been working hand in hand with Caltrans and the California Transportation Commission to keep the project to replace the East Span of the Bay Bridge on track, and to troubleshoot the unforeseen glitches along the way. In this issue, we revisit in words and photos the extreme engineering of the Labor Day weekend operation, and bring you up to date on what's next for the region's toll bridges.



Drivers must slow down to navigate the “S” curve (clearly evident in this view looking east from Yerba Buena Island) in the new East Span bypass.

Eyebars Update



Caltrans engineers are working on a more permanent fix to the failed eyebrow on the old East Span of the San Francisco-Oakland Bay Bridge (see photo above and adjacent story). For more details and bridge/lane closure updates, stay tuned to <baybridgeinfo.org> and <511.org>.

In Print

Transportation Plan Puts Change in Motion



After two years of analysis and outreach, the final *Transportation 2035 Plan* has been adopted and is now available. A collaborative effort among MTC, the Association of Bay Area Governments, the Bay Area Air Quality Management District and the Bay Conservation and Development Commission, the plan specifies how some \$218 billion in anticipated federal, state and local transportation funds will be spent in the nine-county Bay Area during the next 25 years.

To save costs and paper, MTC encourages you to view the plan and associated Transportation 2035 documents online at <www.mtc.ca.gov/planning>. For printed copies, contact the MTC-ABAG Library via e-mail at <library@mtc.ca.gov> or telephone at 510.817.5836.

Project Update

Next in Line for Seismic Retrofits: Dumbarton and Antioch Bridges



JOHN HUBERTY/CALTRANS



JOHN HUBERTY/CALTRANS

Dumbarton Bridge (top); Antioch Bridge (bottom).

The Dumbarton and Antioch bridges may not have the iconic presence, name recognition or heavy traffic volumes of the San Francisco-Oakland Bay Bridge, but they are important links in the regional transportation network nonetheless. And now MTC's Bay Area Toll Authority (BATA) is working with Caltrans to bring these spans up to current earthquake safety standards. BATA is also developing a plan to raise tolls on the region's state-owned bridges to cover the \$750 million cost of the retrofits as well as to compensate for declining toll revenues and escalating construction bond costs.

"These two bridges were built before the Northridge and Loma Prieta earthquakes," said Andrew Premier, the MTC deputy executive director who oversees BATA's operations. "We've learned a lot since then."

Opened in 1982 and 1978 respectively, the Dumbarton and Antioch bridges were too young to merit a seismic review back in the 1990s when Caltrans initially mapped out a bridge seismic retrofit program. That earlier effort targeted five of the region's seven state-owned toll bridges and is now largely complete, with the exception of the new East Span

Story continued on back page

Labor Day Weekend Photo Album ▶

1	2	3
4	5	6
7	8	9
10	11	

Photo Key

Photos 1 and 6: The Bay Bridge and Yerba Buena Island tunnel are eerily empty in these photos taken over the Labor Day weekend closure.

Photos 2, 3 and 8: Raining sparks and glowing, the bridge takes on a Las Vegas quality in these nighttime glimpses of the round-the-clock effort to detach the old deck piece and secure the new bypass.

Photo 4: Crews help guide the massive deck piece as it slowly slides across tracks (in red) lubricated with dish soap.

Photo 5: In a finishing touch, workers imprint the pavement with the new, slower speed limit in force along the bridge bypass.

Photo 7: Viewed from underneath, the prefab bypass truss looks like a geometric modern art sculpture.

Photo 9: With the bypass in place, the disconnected stub of the old East Span will be demolished to allow the new East Span (at far left) to connect to the Yerba Buena Island tunnel.

Photo 10: Ironworkers ready one of the pieces designed to ease the strain on the failed eyebar.

Photo 11: In this aerial view, the old deck piece is sitting to the side, and the replacement truss (whitish colored) is starting to slide into place.

Diary of a Dramatic Construction Operation Crews Race Against Time to Install Last Piece of Bay Bridge Bypass and Repair Failed Eyebars

A series of loud metallic pops in the late afternoon of Friday, September 4, was music to the ears of the Caltrans and Bay Area Toll Authority (BATA) officials perched at a strategic location on Yerba Buena Island and monitoring the movement of a massive deck section of the old East Span of the Bay Bridge.

The noise indicated that after nearly 24 hours of preparation that had commenced with the bridge closure the night before, the 3,200-ton, 300-foot deck section was finally free of its moorings and was ready to roll. Once it started to move on skids reportedly greased with common dish soap, the double-deck piece slid out with relative ease and speed, assuming its resting position 150 feet above the ground by early Friday evening of Labor Day weekend. Much on-the-scene preparation and angst went into that climactic moment, and not everything went according to plan when it came to amputating a chunk of the 73-year-old span.

"When you open up an old bridge, you find out a few things. It has a few secrets to give up. We found a few of them today," Caltrans Toll Bridge Deputy Program Manager Brian Maroney said that Friday, midway through the process. "We found some extra steel that was welded and needed to be cut."

According to Maroney, the engineers were dealing with 80-year-old plans that weren't necessarily in sync with shop drawings of a similar vintage that were inked on linen. "The old shop drawings are works of art; they're pieces of history," he said. Adding to the bridge's mysteries, still

more changes were made in the field during the Depression-era construction, and they weren't always well documented.

Engineers also had to prescribe measures to ensure that the remaining portions of the old bridge wouldn't tilt precariously into the "maw," the cavernous hole left when the deck section was removed.

Fortunately, the engineers had a powerful ally on their side in the form of the prime contractor on the job, C.C. Myers Inc. Based in Rancho Cordova, Calif., the firm has carved out a reputation for tackling "impossible" construction projects under extreme time pressures, including the demolition and roll-in replacement of an upper-deck segment on the same bridge over Labor Day weekend in 2007.

Roll In: Hurry Up and Wait

With the most challenging phase of the procedure completed, crews on Saturday morning (September 5) turned their attention to the rolling in of the last piece of a detour structure. The temporary detour will carry traffic to and from the Yerba Buena Island tunnel over the next several years while the new East Span of the Bay Bridge is connected to the mouth of the Yerba Buena Island tunnel. The Skyway portion of the new East Span, consisting of

a pair of sleek road decks stretching more than a mile westward from the Oakland shore, is already complete. Closing the gap between the Skyway and the Yerba Buena Island tunnel will be a striking self-anchored suspension span with an iconic tower rising 525 feet above the water.

All day Saturday it was hurry up and wait as crews prepped the bypass piece and then started and stopped the roll-in procedure a couple of times. By lunchtime on Saturday, the piece appeared to have slid halfway in, a position it maintained until the late afternoon, at which point it traversed the last stretch smoothly and nearly silently, with a swift pace that belied its 3,600-ton weight.

Just as onlookers were celebrating the successful completion of the tricky roll-out/roll-in procedure and the impressive closure of the gaping hole in the double-deck structure, Caltrans delivered stunning news at a Saturday evening press conference: Inspection crews had detected a significant fracture in an "eyebars" piece of the cantilever structure farther down the line on the old East Span. The presence of rust indicated that the break had been there for some time and was not caused by the weekend's trauma to the bridge.

The fracture was not entirely surprising,

given the span's age; in fact, it underscored the urgent necessity for replacing the old East Span, which failed in the 1989 Loma Prieta earthquake along one section.

Fractured Eyebars Triggers Scramble

The discovery of the broken eyebars set in motion a scramble to design, commission and install a fix. Stinger Welding Inc. in Arizona was able to fabricate crucial steel repair components in a day and ship them on a charter plane that landed in Oakland by midday on Sunday. Under-scoring the time pressures, the flatbed truck that hauled the 18,000 pounds of steel from the airport to the bridge was escorted by the CHP.

"An eyebars is a tension member; it is very important to the structure, which is the reason for the urgency to repair it now while the bridge is closed," Mike Forner, Caltrans' district division chief for the San Francisco-Oakland Bay Bridge, said at a late-afternoon press briefing on Sunday.

"It has been an incredible effort to get fabricators together and the design done and all the materials here during Labor Day weekend while most people are out enjoying barbecues," said Caltrans spokesperson Bart Ney at the press briefing.

While the eyebars repair took center stage Sunday and Monday, other important work was going on as well, most notably a major reconfiguration of the bridge's toll plaza (see story to the right)

that was timed to coincide with the rare bridge closure. Crews also were striping lanes, painting, hooking up the utilities that traverse the bridge, installing traffic barriers and the like.

All day on Monday, Labor Day proper, the region held its collective breath, wondering if the work would be done in time for the planned reopening of the bridge at 5 a.m. on Tuesday morning. Keeping track of the progress wasn't hard: News outlets covered the unfolding drama nearly continuously, while Caltrans public information officers posted updates on Twitter at frequent intervals. And BATA had six stationary still cameras as well as a stationary video camera trained on the bridge construction zone, delivering fresh images to the Web 24/7.

At a 6 p.m. press conference on Monday, officials confirmed commuters' worst fears: Contractors could need another full day to complete the eyebars repairs, pushing the opening back 24 hours to 5 a.m. Wednesday. But thanks to the perseverance of the crew of ironworkers and other craftspeople who struggled on through the night, commuters woke up Tuesday morning to a pleasant surprise: starting at 6:10 a.m., the CHP began to remove barriers on the approaches, and by 7 a.m., the bridge was fully open — just two hours beyond the original planned opening time.

It was yet another dramatic twist in a dramatic weekend. End of story? Not

quite. Some seven weeks later, high winds appeared to trigger vibrations that snapped a key element in the eyebars repair assembly, causing debris to fall on the bridge deck. Officials quickly shut down the bridge once again, and kept it closed while they reengineered and reinforced the repair. While the repairs took longer than expected and the closure stretched over a work week, the region's commuters adjusted quickly and flocked to transit, pushing BART ridership to its highest daily levels ever.

Slowing for the "S" Curve

Drivers also have been adjusting to the pronounced "S" curve that is a necessary feature of the new bridge bypass leading to and from the Yerba Buena Island tunnel. The speed limit on this nearly half-mile section has been set at 35-40 mph, down from the 50 mph in force elsewhere on the bridge. The stretch has been a navigational challenge for those motorists and truckers who fail to obey the new speed limits, and has been the scene of a number of accidents. Caltrans has been installing signage and pavement markings while also undertaking an informational campaign to alert drivers to the new configuration, which will be in place for the next four years, until the striking and seismically sturdy new East Span of the Bay Bridge completes its march toward the Yerba Buena Island tunnel.

— Brenda Kahn (with field reports by Karin Betts)



NOAH FRIEDER



NOAH FRIEDER



NOAH FRIEDER



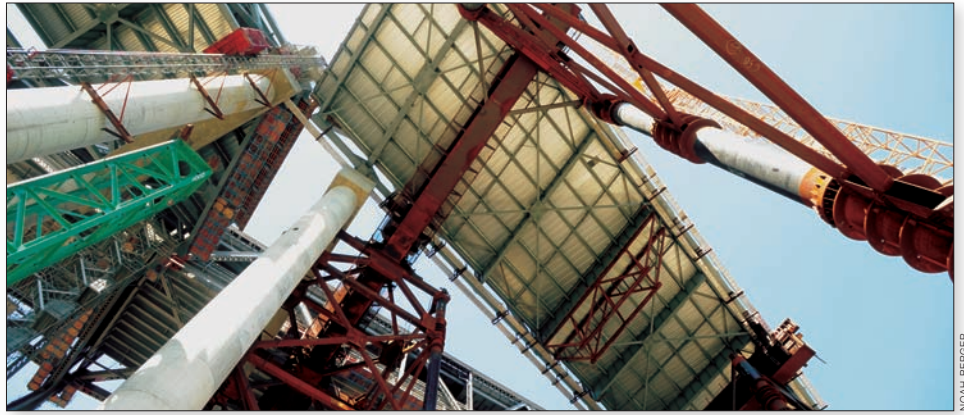
NOAH FRIEDER



KARIN BETTS



NOAH FRIEDER



NOAH FRIEDER



NOAH FRIEDER



NOAH FRIEDER



NOAH FRIEDER



NOAH FRIEDER

Bay Bridge Update

Mini Toll Plaza Vanishes



NOAH FRIEDER

In this aerial view, a light-colored scar in the pavement marks where the mini toll plaza was removed in a late-night operation.

While the dramatic aerial East Span bypass operation was unfolding at Yerba Buena Island over Labor Day weekend, a smaller demolition operation was going on at the opposite end of the East Span. Shortly after the Bay Bridge was cleared of traffic on Thursday night, mechanical excavators moved in to chew up the three-lane mini plaza, which used to sit about 400 feet beyond the main toll plaza (on the right-hand side) and was dedicated to motorists paying tolls electronically with FasTrak®. Workers then reconfigured and repaved the lanes in that area in the first phase of a three-stage effort over the next year to smooth the way for FasTrak® customers and encourage wider use of FasTrak®.

You can watch a time-lapse of the demolition at <www.mtc.ca.gov/news/video.htm> or at <www.youtube.com/user/mtcabaglibrary>.

Officials Turn Eyes Toward China

With Labor Day weekend operations on the Bay Bridge successfully completed, local and state officials are now turning their attention to China, where the first steel segments for the new East Span's signature self-anchored suspension section are being readied for shipment after a series of production challenges. MTC's Bay Area Toll Authority (BATA), Caltrans and the California Transportation Commission — which together comprise the Toll Bridge Program Oversight Committee — are working with their Chinese counterparts to accelerate fabrication of the deck and tower pieces so as to still meet the 2013 target for the full opening of the bridge.

"The most critical factor associated with the opening of the bridge is the fabrication, delivery and erection of the steel from Shanghai," declared Andrew Premier, MTC's deputy executive director overseeing BATA.

— John Goodwin

A new photo exhibit at MTC's offices provides a window into the Shanghai Zhenhua Heavy Industry Co. in Shanghai, where an army of some 1,500 men and women are fabricating the deck and tower sections. The show can be viewed weekdays from 9 a.m. to 5 p.m. on the second floor of the MetroCenter in Oakland.



NOAH FRIEDER

A completed steel deck section seems to glow against the evening sky in Shanghai, China.



JOHN HUSEBY, CALTRANS



BILL HALL, CALTRANS



JOHN HUSEBY, CALTRANS



KARL NIELSEN



KARL NIELSEN



JOHN HUSEBY, CALTRANS



JOHN HUSEBY, CALTRANS

Photo Album Region Celebrates Opening of Bicycle/Pedestrian Path on Benicia-Martinez Bridge

Festivities were recently held to mark the official opening of the new bicycle/pedestrian path along the George Miller, Jr. Memorial Bridge leading from Benicia to Martinez. MTC's Bay Area Toll Authority (BATA) and Caltrans hosted opening events at both ends of the bridge, kicking off the celebration with a ribbon-cutting in Martinez at the foot of the bridge. Attendees then joined in the official first walk/ride across the bridge, where an opening ceremony followed at Vista Point in Benicia.

The opening of the two-mile-long bicycle/pedestrian path signals completion of the final improvements to the Benicia-Martinez Bridge, which connects Contra Costa and Solano counties across the Carquinez Strait and consists

of a pair of spans — one dating to 1962 and named for the late state Assemblyman and Senator George Miller, Jr., and another that opened in 2007 and is named for his son, Congressman George Miller. The path also serves as an important link in three regional trail systems that are works in progress: the San Francisco Bay Trail, which rings the shorelines of San Francisco and San Pablo bays; the Ridge Trail, which encircles the region at the ridge line; and the Carquinez Strait Scenic Loop Trail, which, as the name implies, will take bicyclists and walkers on a scenic route along both sides of the Carquinez Strait.

There are now five Bay Area bridges that allow bicyclists and pedestrians to cross, the others being the Al Zampa

Memorial Bridge (Carquinez Bridge), the Antioch Bridge, the Dumbarton Bridge and the Golden Gate Bridge. The new East Span of the San Francisco-Oakland Bay Bridge also will feature a bicycle/pedestrian path.

Funded with bridge tolls primarily through the Regional Measure 1 (RM 1) program approved by voters in 1988 and administered by BATA, the \$50 million Benicia-Martinez Bridge project encompassed reconfiguring the old 1962 span to accommodate southbound traffic, along with adding the new path. An earlier RM 1 project delivered the parallel span, which carries northbound traffic.

The bicycle/pedestrian path is open 24 hours a day, seven days a week.

Seismic Retrofits

Continued from inside spread

of the Bay Bridge, which is still under construction.

The 1.6-mile long Dumbarton Bridge carries an average of 60,000 vehicles a day across the southern end of the Bay. The retrofit strategy calls for modifying deck joints and reinforcing columns on the approaches. Along the bridge's central hump, new isolation bearings will be placed between the superstructure and the piers to reduce shaking movements transferred to the deck in the event of an earthquake.

The retrofit approach is similar for the Antioch Bridge, which stretches 1.8 miles across the San

Joaquin River and transports an average of 15,000 vehicles a day between Eastern Contra Costa County and Sacramento County. Its tall columns also will require cross-bracing.

The retrofit work is scheduled to begin by April 2010 and be completed in 2012 on the Antioch Bridge, and 2013 on the Dumbarton Bridge. — *Brenda Kahn*

Toll Increases Ahead

MTC's Bay Area Toll Authority has been formulating scenarios for raising the current toll scheme for the region's state-owned bridges, under which cars and light trucks pay \$4, trucks pay according to the number of axles, and carpools and vanpools traverse for free during commute hours. View and comment on current proposals at <www.mtc.ca.gov/get_involved>.

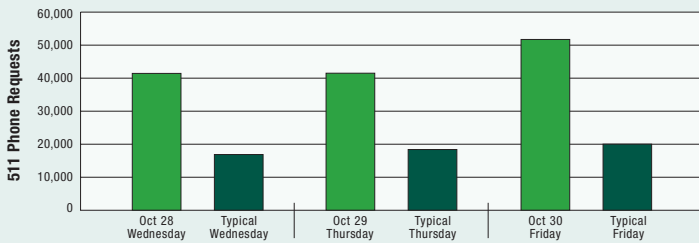
Facts & Figures Traffic to Traveler Info Service Soars During Bridge Closure

511

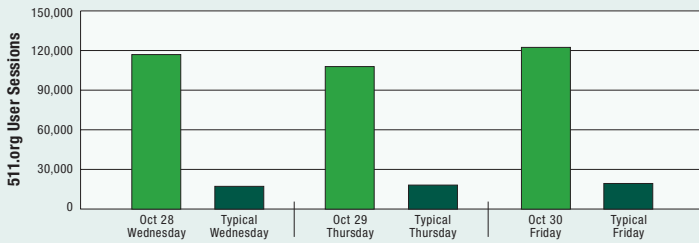
511 to the Rescue

When Caltrans had to close the San Francisco-Oakland Bay Bridge in late October for a second round of emergency repairs (see inside story), MTC's 511 team sprang into action. The 511 phone center and 511.org Web site became the go-to sources for fresh updates on the closure and transit alternatives. Daily user sessions for the main Web page soared by nearly 500 percent over typical levels during the crisis, while calls to 511 were up 140 percent. "All the news services linked to 511," said Melanie Crotty, director of Traveler Information at MTC.

511 Phone Usage During October 2009 Bay Bridge Eyebar Closure*



511.org Usage During October 2009 Bay Bridge Eyebar Closure*



*Only the first three days of the five-plus day bridge closure are shown here.

METROPOLITAN TRANSPORTATION COMMISSION WWW.MTC.CA.GOV

Commissioners

Scott Haggerty, Chair
Alameda County

Adrienne J. Tissier, Vice Chair
San Mateo County

Tom Azumbrado
U.S. Department of Housing
and Urban Development

Tom Bates
Cities of Alameda County

Dean J. Chu
Cities of Santa Clara County

Dave Cortese
Association of Bay Area Governments

Chris Daly
City and County of San Francisco

Bill Dodd
Napa County and Cities

Dorene M. Giacomini
U.S. Department of Transportation

Federal D. Glover
Contra Costa County

Anne W. Halsted
San Francisco Bay Conservation
and Development Commission

Steve Kinsey
Marin County and Cities

Sue Lempert
Cities of San Mateo County

Jake Mackenzie
Sonoma County and Cities

Jon Rubin
San Francisco Mayor's Appointee

Bijan Sartipi
State Business, Transportation
and Housing Agency

James P. Spering
Solano County and Cities

Amy Rein Worth
Cities of Contra Costa County

Ken Yeager
Santa Clara County

Transactions

NOVEMBER/DECEMBER 2009

Metropolitan Transportation Commission

Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, California 94607

510.817.5700 TEL.
510.817.5769 TDD/TTY
510.817.5848 FAX
info@mtc.ca.gov E-MAIL
www.mtc.ca.gov WEB

Steve Heminger
Executive Director

Ann Flemer
Deputy Executive Director, Policy

Andrew B. Fremier
Deputy Executive Director, Operations

Randy Rentschler
Director, Legislation and Public Affairs

Brenda Kahn
Editor

Joe Curley
Associate Editor

Karin Betts, John Goodwin, Georgia Lambert
Editorial Staff

Finger Design Associates, Oakland
Design and Production

Paris Printing, Point Richmond
Printing

♻️ Printed on recycled paper.

©2009 MTC. All rights reserved.

ADDRESS SERVICE REQUESTED

PRESORT
FIRST CLASS
U.S. Postage
PAID
Oakland, CA
Permit No. 854